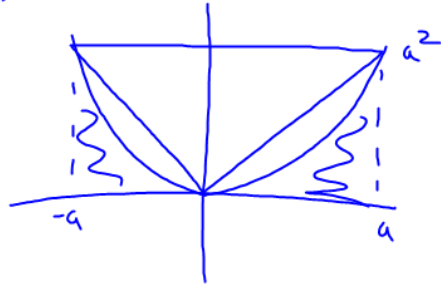


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3

Area of triangle: $\frac{2a \cdot a^2}{2} = a^3$

Area of parabola: $\int_{-a}^a x^2 dx = \frac{a^3}{3} - \frac{(-a)^3}{3} = \frac{2a^3}{3}$

$$a^2 \cdot 2a - \frac{2a^3}{3}$$

$$\frac{\frac{4}{3}}{1} = \frac{4}{3}$$

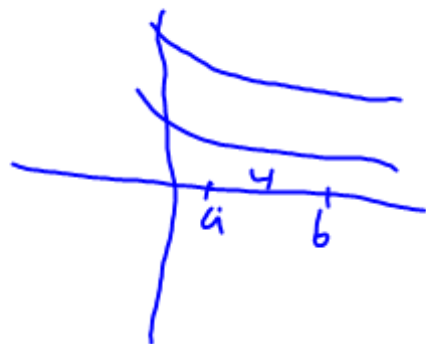
$$2a^3 \cdot \frac{3}{3} - \frac{2a^3}{3} = \frac{4a^3}{3}$$

$$\frac{1}{\frac{4}{3}} = \frac{3}{4}$$

$$\frac{4a^3}{3} : a^3$$

$$\frac{4}{3} : 1$$

$$1 : \frac{3}{4}$$



$$\int_a^b f(x) dx = \underline{4}$$

$$\int_a^b (2f(x) - f(x)) dx$$

Find the area between the two curves analytically

① $f(x) = 2 - x^2$
 $g(x) = x$

② The cosine + sine intersect ∞ times bounding regions of equal size. Find the area of one of these.

③ $f(x) = 3x^3 - x^2 - 10x$
 $g(x) = -x^2 + 2x$

④ $f(y) = y + 1$
 $f(y) = 3 - y^2$

Read 7.3